

## INSTRUCTIONS FOR INSTALLING AN EJECTION SYSTEM UP-DATING KIT IN A NATIONAL VENDORS AUTOMATIC OR MANUAL BOOK MATCH ASSEMBLY

Book Match Assembly Up-Dating Kit, part number 222-9073, has been designed for installation in Book Match Assemblies in which erratic Book Match Delivery is prevalent.

The Kit may be installed on any National Vendors Crown Line<sup>®</sup>, Series 222 or Series 800; Crown Line<sup>®</sup>, Cabaret 222 or Cabaret 800; Crown Seventy Two<sup>®</sup>, Series 22M-72 or Golden Furniture Line 22M-72; or Moduline, Series 22M or Series 80-M Cigarette Merchandiser Automatic or Manual Book Match Assembly, except for the early model Automatic Book Match Assemblies which do not have a Book Match Stop Stud. Figure 1 shows the location of the Stop Stud on the Book Match Assembly. All Manual Book Match Assemblies have Stop Studs.

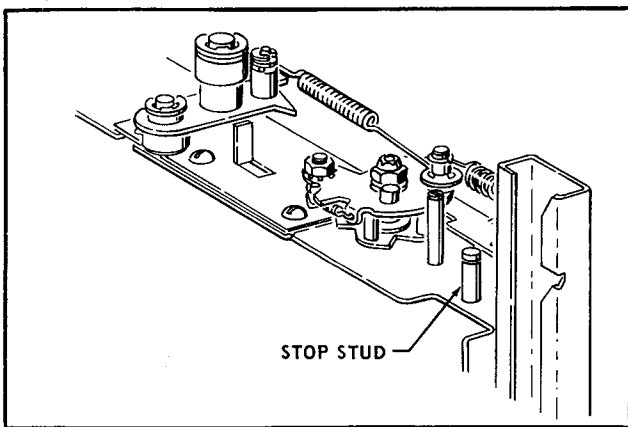


FIGURE 1

An Ejection System Up-Dating Kit, part number 222-9073, contains the following items:

Part Number	Description	Quantity
220-9229	Book Match Stop Spring	1*
220-9241	Book Match Wheel Stop Assembly	1*
222-9017	Book Match Wheel Assembly	1
222-9065	Book Match Wheel Separator	4
9900-425	Retainer Ring .250"	2
222-9074	Installation Instructions	1

(\* ) Used only on Automatic Book Match Assembly

\* \* \*

These instructions cover the installation of the Kit on:

- I. An Automatic Book Match Assembly
- II. A Manual Book Match Assembly

Carefully and thoroughly read the instructions which cover the type of Book Match Assembly that is to be up-dated before starting to do the work.

### I. AN AUTOMATIC BOOK MATCH ASSEMBLY

#### A. Installation Of The Parts In The Kit:

1. Remove the Book Match Assembly from the Merchandiser.
2. Lay the Assembly on a flat surface with the Springs up. See Figure 2.

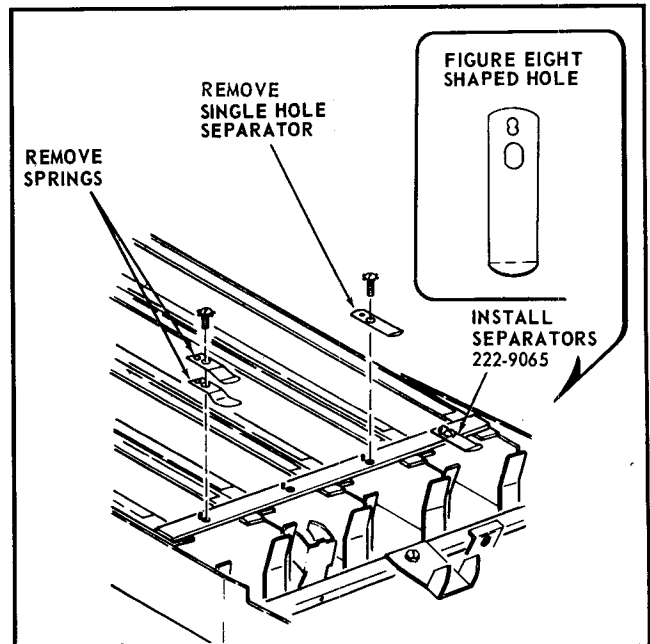


FIGURE 2

3. Remove the four No. 6-32 x 3/16" RHS Screws/Lockwashers which attach the four pairs of Springs or the four Non-Adjustable Book Match Separators to the Book Match Assembly.
4. Install the four Book Match Separators, part number 222-9065, and attach them with the four Screws removed in Step I-A-3.

#### NOTE

1. Be sure the Lip on each Separator is facing up and that the small round projection on the Book Match Assembly is inside the lower hole in the "Figure-Eight" shaped hole in the Separator.
2. Be sure to install all four Separators.
3. Be sure the four Screws are tight.

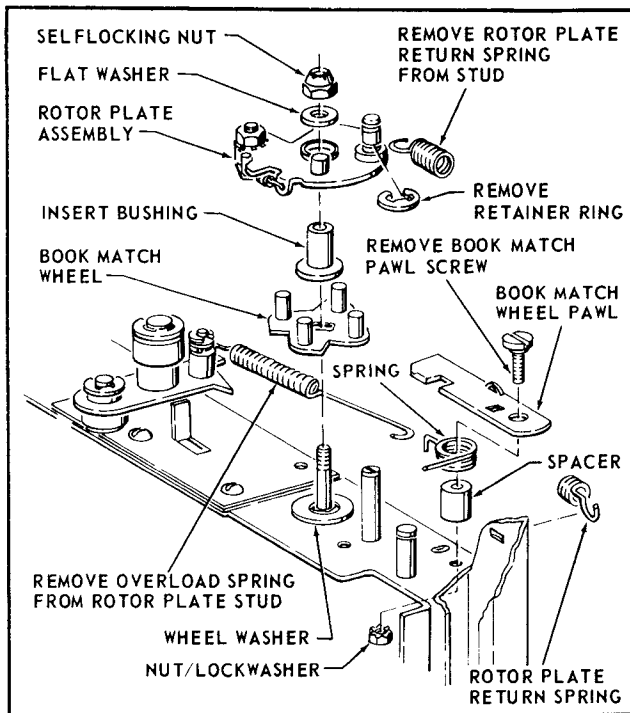


FIGURE 3

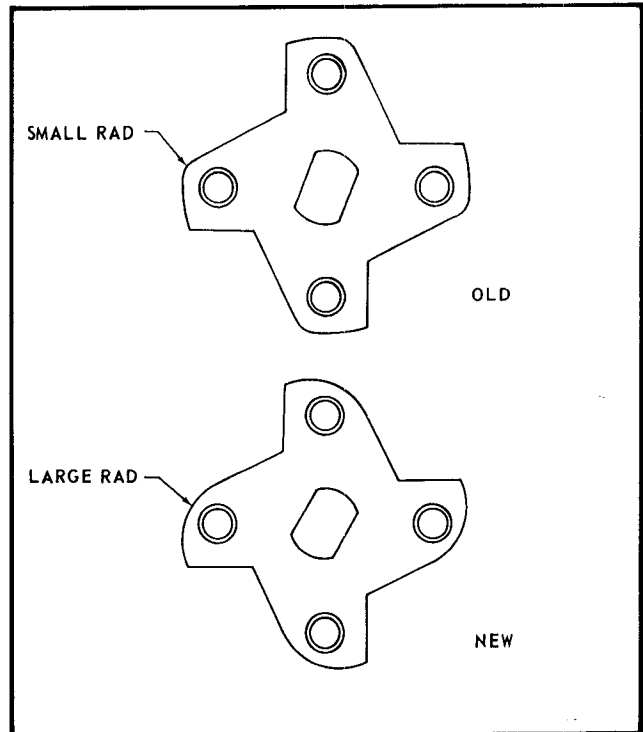


FIGURE 4

5. Place the Book Match Assembly on its side. See Figure 3.
6. Remove the Rotor Plate Return Spring from the Stud on the Rotor Plate.
7. Remove the Retaining Ring which attaches the Rotor Plate Overload Spring to the same Stud on the Rotor Plate from which the Return Spring is removed.
8. Remove the Overload Spring from the Rotor Plate Stud.
9. Remove the Book Match Pawl Screw and the No. 6-32 Nut/Lockwasher which attaches the Book Match Wheel Pawl, Spacer, and Spring.
10. Remove the Book Match Wheel, Pawl, Spacer, and Spring.
11. Remove the No. 10-32 Self-locking Nut and Flat Washer which attach the Rotor Plate Assembly, Insert Bushing, Book Match Wheel Assembly, and the Wheel Washer to the Book Match Rod.
12. Remove the Rotor Plate Assembly, Insert Bushing, and Book Match Wheel Assembly. Do not remove the Wheel Washer.
13. Install the Book Match Wheel Assembly, part number 222-9017, on the Book Match Rod. Note that the radii at the Studs on the new Wheel Assembly are larger than on the Wheel Assembly removed in step I-A-11. See Figure 4.

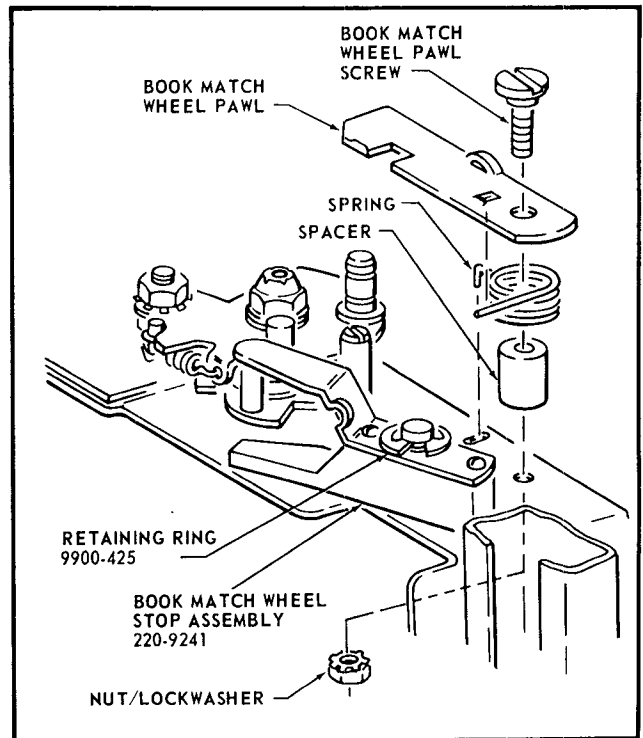


FIGURE 5

14. Install the Rotor Plate Insert Bushing and the Rotor Plate Assembly removed in step I-A-12. The small nut on the Rotor Plate Assembly is to be at the 12 o'clock position.
15. Install the Flat Washer and No. 10-32 Self-locking nut removed in step I-A-11. Be sure the Nut is tight.

16. Install Book Match Wheel Stop Assembly, part number 220-9241, on the Book Match Magazine Stop Stud. See Figure 5.

**NOTE**

*The Book Match Magazine Stop Stud may be covered with paint. Use steel wool or emery cloth to remove the excess paint and to smooth the Stud. The Book Match Wheel Stop Assembly must move freely on the Stud.*

17. Attach the Wheel Stop with one of the new Retaining Rings part number 9900-425.
18. Install the Book Match Wheel Pawl, Spacer, and Spring removed in step I-A-10. Be sure the Spring is under tension and is hooked into the hole in the Book Match Magazine and into the hook on the underside of the Pawl.
19. Install the Book Match Pawl Screw and the No. 6-32 Nut/Lockwasher removed in step I-A-9.
20. Install the Rotor Plate Overload Spring removed in step I-A-8.
21. Install the Retaining Ring removed in step I-A-7 or the second Retaining Ring part number 9900-425, included in the Kit to attach the Overload Spring.
22. Install the Book Match Stop Spring, part number 220-9229. See Figure 6.
23. Hook the loose end of the Rotor Plate Return Spring to the Rotor Plate Stud.

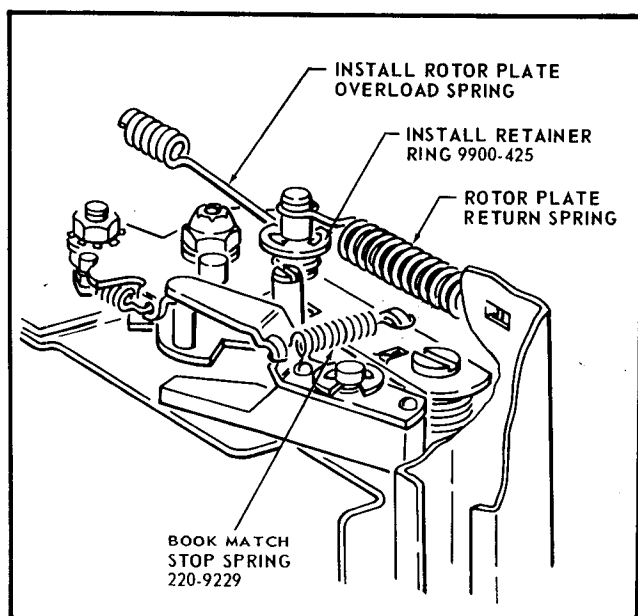


FIGURE 6

24. Install the Book Match Assembly in the Merchandiser.
25. Load each of the Columns of the Book Match Magazine to its maximum capacity. Load the Match Books from the top of the Columns with the flap side up and the thick end of every other layer of Match Books facing forward. The alternate layers of Match Books must have the flap side up and the thin end of the Match Book facing forward. See Figure 7 for proper orientation of Book Match Packs. The maximum capacity of the Match Book Magazine is 460 Match Books. The maximum capacity loading is required for the test in step I-B. After the proper operation of the Book Match Assembly has been proven the Columns need only to be loaded to the capacity the operator desires to load them.

26. Test vend the Merchandiser per Procedure I-B.

**B. To Test Vend The Installation**

1. Insert coins of the proper value into the Coin Mechanism.
  - a. (1). Very slowly and with a steady smooth motion, pull a Pull Knob out to make a purchase of cigarettes. Be sure to pull the Knob out until the Main Shaft Assembly is rotated sufficiently far enough to allow the Main Ratchet to be disengaged from the Main Shaft Gear. Do not release the Pull Knob at the end of the out-stroke but slowly guide the Knob back to the at-rest position. While pulling and returning the Knob watch the action of the:

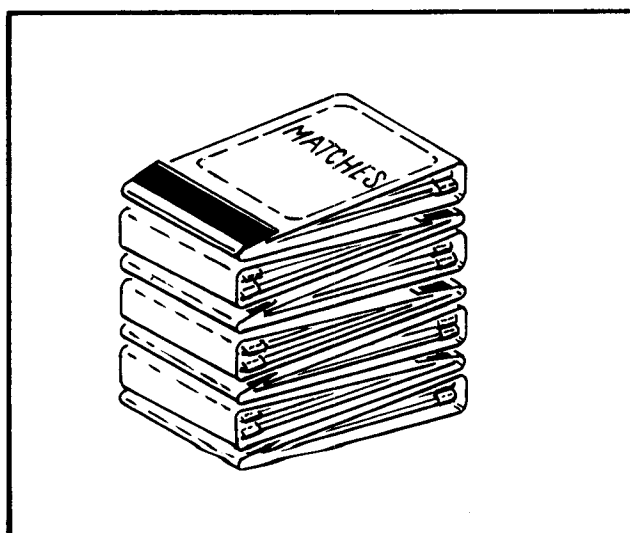


FIGURE 7

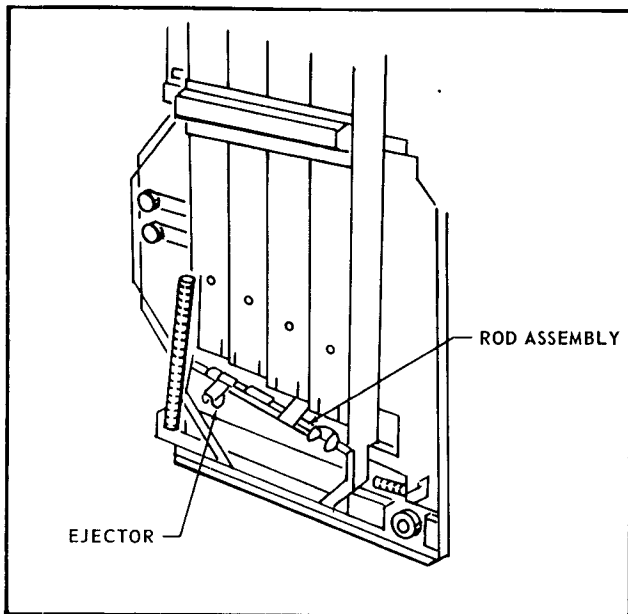


FIGURE 8

(1a) Book Match Separator, to be sure that only one Book of Matches is delivered.

(1b) Book Match Rod Assembly, to be sure that the Rod rotates completely and that the Book Match Ejectors snap into place. See Figure 8.

2. Repeat step B-1 at least 20 times.

**NOTE**

*If the Book Match Separator is set incorrectly or the Book Match Rod does not operate properly during the series of tests, the delivery of matches will be erratic.*

3. If the operation of the Automatic Book Match Assembly is proper, the Merchandiser is ready for vending. Close and lock the Merchandiser Door.
4. If the operation of the Automatic Book Match Assembly is improper follow procedure C.

**C. Adjusting The Book Match Assembly**

Follow the steps in this procedure only if the Automatic Book Match Assembly worked improperly during the tests described in procedure I-B.

1. To correct multivending of Thin Book Matches it is necessary to adjust the Book Match Separators downward.

- a. Move the Delivery Mechanism out of the Cabinet until the stop at the left-hand side of the Mechanism stops the movement of the Mechanism.
- b. Remove the Automatic Book Match Assembly from the Merchandiser. Depress and hold depressed the red Book Match Assembly Latch and pull the Book Match Assembly out of the Delivery Mechanism.
- c. Remove the No. 6-32 x 3/16" RHS Screw/Lockwasher which attaches the Book Match Separator in the Column which is multivending.
- d. Install the Book Match Separator so that the Lip is facing up and that the small round projection on the Book Match Assembly is inside the upper hole of the "Figure-Eight" shaped hole. This provides minimum clearance between the Lip on the Book Match Separator and the Foot on the Book Match Column. Tighten the No. 6-32 attaching screw. See Figure 9.

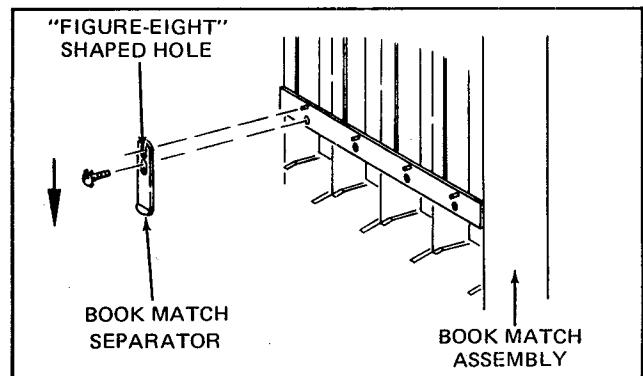


FIGURE 9

- e. Install the Book Match Assembly in the Merchandiser. Be sure that the Automatic Book Match Assembly Latch snaps up to the locked position.
  - f. Close and lock the Merchandiser Door.
  - g. Repeat the Separator test as given in Step I-B.
2. To correct the failure of the Book Match Rod Assembly to rotate completely and the Book Match Ejectors to snap into place.
    - a. Move the Delivery Mechanism out of the Cabinet until the stop at the left-hand side of the Mechanism stops the movement of the Mechanism.

- b. Remove the Automatic Book Match Assembly from the Merchandiser. Depress and hold depressed the red Book Match Assembly Latch and pull the Book Match Assembly out of the Delivery Mechanism.
- c. Carefully bend the Arm on the Book Match Cam Assembly up, about 1/16 inch. See Figure 10.
- d. Replace the Automatic Book Match Assembly. Be sure the Automatic Book Match Assembly is all the way in the Merchandiser and that the Book Match Assembly Latch snaps up to the locked position.
- e. Close and lock the Merchandiser Door.
- f. Repeat the Rod Assembly test as given in procedure I-B. If the Rod Assembly of the Automatic Book Match Assembly does not operate properly repeat procedure I-C-2 until proper operation is obtained.
- g. When the operation of the Automatic Book Match Assembly is proper, close and lock the Merchandiser Door and the Merchandiser is ready for vending.

**NOTE**

*In order to realize the maximum trouble free operation of the Book Match Dispenser the following hints are offered.*

1. *Use only Matches made specifically for vending.*
2. *Reloading the Match Columns.*
  - a. *An empty Column. If when reloading an empty Column with Book Matches you are not sure that the new Matches are the same size as those previously in the Column, test vend and adjust the Separator as required.*
  - b. *A partially empty Column. If identical Book Matches are not available to refill a partially loaded Column:*
    - (1) *And there is more than one partially loaded Column having the same Book Matches, consolidate the contents of the Columns to fill or nearly fill as many Columns as possible. Refill the empty column using other Book Matches, test vend, and adjust as required per previous instructions.*
    - (2) *Or there are not sufficient Book Matches to completely fill a Column or partially fill the Column to the level of the other Columns it is not desirable to mix Book Matches. It is best to discard the small quantity of Matches left in the Column and refill the Column in accordance with paragraph 2a.*

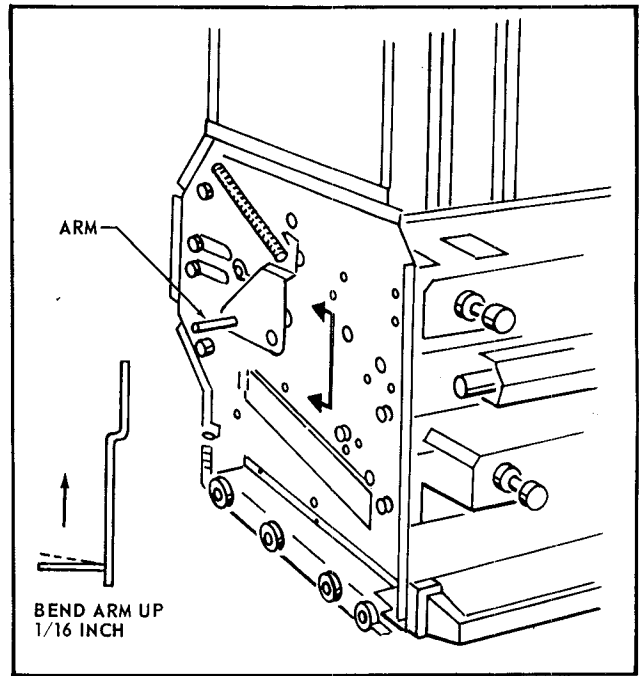


FIGURE 10

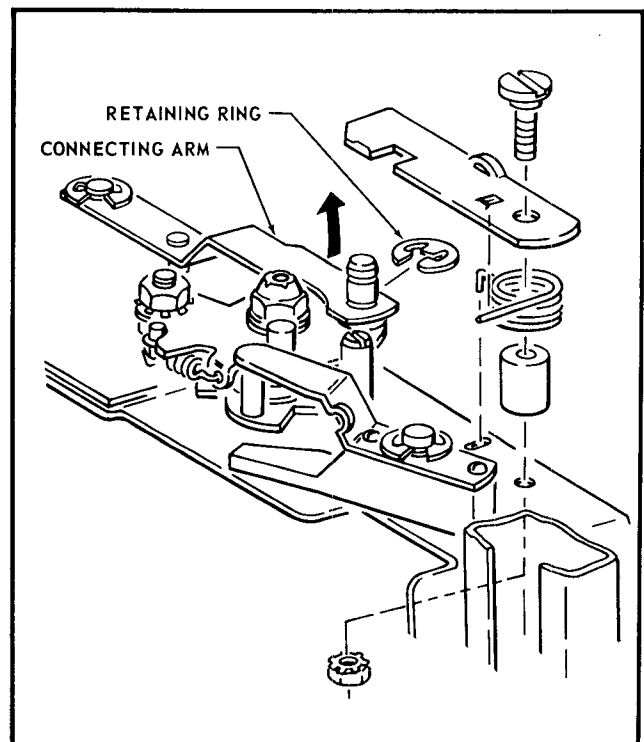


FIGURE 11

**II. A MANUAL BOOK MATCH ASSEMBLY — INSTALLATION OF THE PARTS IN THE KIT:**

- A. Perform steps I-A-1 through I-A-6.
- B. Remove the Retaining Ring which attaches the Connecting Arm Assembly to the Stud on the Rotor Plate from which the Return Spring was removed. See Figure 11.
- C. Carefully lift the loose end of the Connecting Arm Assembly off of the Rotor Plate Stud.

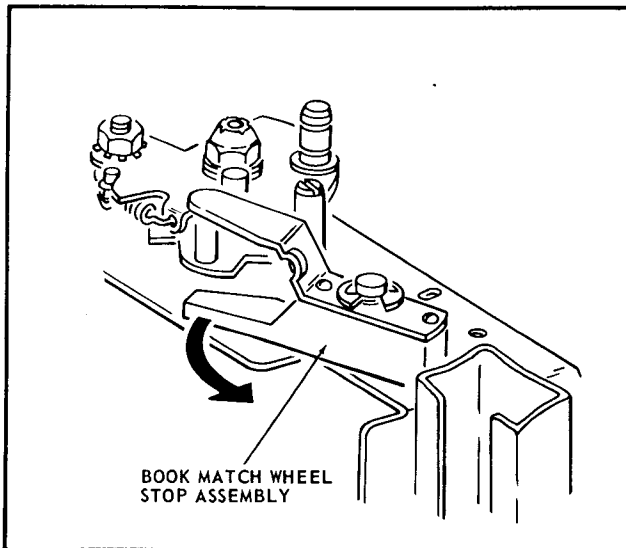


FIGURE 12

- D. Unhook the Book Match Stop Spring from the Book Match Wheel Pawl.
- E. Remove the Book Match Pawl Screw and the No. 6-32 Nut/Lockwasher which attaches the Book Match Wheel Pawl, Spacer, and Spring.
- F. Remove the Book Match Wheel Pawl, Spacer and Spring.
- G. Move the Book Match Wheel Stop Assembly counter-clockwise away from the Rotor Plate Assembly. See Figure 12.
- H. Perform steps I-A-11 through I-A-15.
- I. Install the Book Match Wheel Pawl, Spacer and Spring removed in step II-F. Be sure the Spring is under tension and is hooked into the hole in the Book Match Magazine and into the hook on the underside of the Pawl.
- J. Install the Book Match Pawl Screw and the No. 6-32 Nut/Lockwasher removed in step II-E.
- K. Hook the Book Match Stop Spring unhooked in step II-D to the Book Match Wheel Pawl.
- L. Carefully place the loose end of the Connecting Arm Assembly on the Rotor Plate Stud.
- M. Install the Retaining Ring removed in step II-B or one of the Retaining Rings, part number 9900-425, included in the Kit to attach the Connecting Arm Assembly.
- N. Hook the loose end of the Rotor Plate Return Spring to the Rotor Plate Stud.
- O. Install the Book Match Assembly in the Merchandiser, fill all four Book Match Magazine Columns to their maximum capacity in accordance with paragraph I-A-25 and thoroughly test vend the Merchandiser match delivery in accordance with paragraph I-B. If necessary to make adjustments, follow the procedures of paragraph I-C.